

FORM-PTO-1390
(Rev. 10-96)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371**

003300-570

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5)

Unassigned 09/334222

INTERNATIONAL APPLICATION NO.
PCT/SE97/01846INTERNATIONAL FILING DATE
5 November 1997PRIORITY DATE CLAIMED
9 December 1996TITLE OF INVENTION
VIEWING INSTRUMENTAPPLICANT(S) FOR DO/EO/US
Björn Heed and Stefan Witte

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and the PCT Articles 22 and 39(1).
4. ☐ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
- ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
- ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
- ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
- ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
- ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (UNSIGNED)
- ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
☐ A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:

A certified copy of the priority application, Sweden Patent Application No. 9604522-4, filed 9 December 1996, was duly filed in connection with PCT/SE97/01846 and was received by DO/EO/US. Thus, it is believed that the priority claim has been properly substantiated.

U.S. APPLICATION NO. 09/319222
Unassigned

INTERNATIONAL APPLICATION NO.
PCT/SE97/01846

ATTORNEY'S DOCKET NUMBER
003300-570

17. ☒ The following fees are submitted:

CALCULATIONS

PTO USE ONLY

Basic National Fee (37 CFR 1.492(a)(1)-(5)):

Search Report has been prepared by the EPO or JPO \$840.00
International preliminary examination fee paid to USPTO (37 CFR 1.482) \$670.00
No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) \$760.00
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$970.00
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) \$96.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

\$ 970.00

Surcharge of \$130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492(e)).

☐ 20 ☐ 30

\$ 0.00

Claims	Number Filed	Number Extra	Rate
Total Claims	20 - 20 =	0	X \$18.00
Independent Claims	1 - 3 =	0	X \$78.00
Multiple dependent claim(s) (if applicable)			+ \$260.00

\$ 0.00

\$ 0.00

\$ 0.00

TOTAL OF ABOVE CALCULATIONS =

\$ 970.00

Reduction for 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).

\$ 0.00

SUBTOTAL =

\$ 970.00

Processing fee of \$130.00 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492(f)).

☐ 20 ☐ 30

\$ 0.00

TOTAL NATIONAL FEE =

\$ 970.00

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +

\$ 0.00

TOTAL FEES ENCLOSED =

\$ 970.00

Amount to be:
refunded

\$

charged

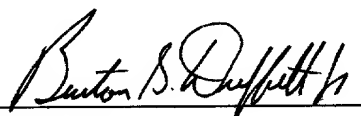
\$

- a. ☒ A check in the amount of \$ 970.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. 02-4800 in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-4800. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Benton S. Duffett, Jr.
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, Virginia 22313-1404


SIGNATURE

Benton S. Duffett, Jr.
NAME

22,030

REGISTRATION NUMBER

09/319222

Patent

Attorney's Docket No. 003300-570

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of) **BOX PCT**
)
Björn Heed and Stefan Witte) Attn: DO/EO/US
)
Application No. (corresponds to PCT/SE97/01846)) Examiner: Unassigned
)
Filed: June 3, 1999) Group Art Unit: Unassigned
)
For: VIEWING INSTRUMENT)

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This application corresponds to International Application No. PCT/SE97/01846.

Please amend the Application as indicated herein.

In the Abstract of the Disclosure

Please add the Abstract of the Disclosure submitted on a separate sheet herewith.

In the Claims

Please amend Claims 3 to 8 as follows:

3. (Amended) A viewing instrument as claimed in [claims 1 and 2] claim 1,
characterised in that it is provided with a control means[, preferably a depressible button,]
for image freezing.

Claim 4, lines 1 and 2, delete "claims 1 and 2" and insert --claim 1--.

Claim 5, line 1, delete "claims 1-4" and insert --claim 1--.

Claim 6, line 1, delete "claims 1-5" and insert --claim 1--.

Claim 7, line 2, delete "claims 1-6" and insert --claim 1--.

Claim 8, line 2, delete "claims 1-6" and insert --claim 1--.

Please add the following new Claims 9 to 20:

--9. A viewing instrument as claimed in claim 1, characterised in that it is provided with a depressible button for image freezing.

10. A viewing instrument as claimed in claim 2, characterised in that it is provided with a control means for image freezing.

11. A viewing instrument as claimed in claim 2, characterised in that it is provided with a depressible button for image freezing.

12. A viewing instrument as claimed in claim 2, characterised in that to provide the memory function, the instrument comprises an electronic processing unit (3) which connects one or several electronic retinas (2) with an electronic display screen (4).

13. A viewing instrument as claimed in claim 3, characterised in that to provide the memory function, the instrument comprises an electronic processing unit (3) which connects one or several electronic retinas (2) with an electronic display screen (4).

14. A viewing instrument as claimed in claim 4, characterised in that to provide the memory function, the instrument comprises an electronic processing unit (3) which connects one or several electronic retinas (2) with an electronic display screen (4).

15. A viewing instrument as claimed in claim 2, characterised in that it comprises only one electronic retina (2), and in that said electronic retina (2) is arranged to be optically or mechanically exposed to receive different-size images in such a manner that the frozen image being viewed has a larger size on the display screen (4) than the non-frozen image, the latter image in contrast comprising a larger angle of vision.

16. A viewing instrument as claimed in claim 3, characterised in that it comprises only one electronic retina (2), and in that said electronic retina (2) is arranged to be optically or mechanically exposed to receive different-size images in such a manner that the frozen image being viewed has a larger size on the display screen (4) than the non-frozen image, the latter image in contrast comprising a larger angle of vision.

17. A binocular-type of viewing instrument as claimed in claim 2, characterised in that it consists of two interconnected viewing instruments.

18. A binocular-type of viewing instrument as claimed in claim 3, characterised in that it consists of two interconnected viewing instruments.

19. A viewing instrument for both eyes as claimed in claim 2, characterised in that it consists of a viewing instrument modified so as to comprise two display screens, one for each eye and showing the same image.

20. A viewing instrument for both eyes as claimed in claim 3, characterised in that it consists of a viewing instrument modified so as to comprise two display screens, one for each eye and showing the same image.--

REMARKS

The present amendment is intended to eliminate the use of multiple dependency in the claims and to add an Abstract of the Disclosure.

The examination and allowance of this Application are respectfully requested.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: Benton S. Duffett Jr.
Benton S. Duffett, Jr.
Registration No. 22,030

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: June 3, 1999

Applicant or Patentee: Bjorn Heed and Stefan Witte

Application or Patent No.: 09/319,222

Filed or Issued: June 3, 1999

For: VIEWING INSTRUMENT

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 C.F.R. §§ 1.9(f) AND 1.27(b)) - INDEPENDENT INVENTOR**

As a below-named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 C.F.R. § 1.9(c) for purposes of paying reduced fees under Sections 41(a) and 41(b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled described in:

- ☐ the specification filed herewith
☐ Application No. _____, filed _____
☐ Patent No. _____, issued _____

I have not assigned, granted, conveyed, or licensed and am under no obligation under contract or law to assign, grant, convey, or license any rights in the invention either to any person who could not be classified as an independent inventor under 37 C.F.R. § 1.9(c) if that person had made the invention, or to any concern that would not qualify as either a small business concern under 37 C.F.R. § 1.9(d) or a nonprofit organization under 37 C.F.R. § 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern, or organization
☐ persons, concerns, or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern, or organization having rights to the invention averring to their status as small entities. (37 C.F.R. § 1.27.)

FULL NAME _____

ADDRESS _____

☐ individual ☐ small business concern ☐ nonprofit organization

FULL NAME _____

ADDRESS _____

☐ individual ☐ small business concern ☐ nonprofit organization

FULL NAME _____

ADDRESS _____

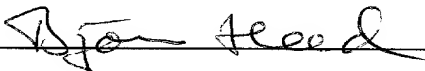
☐ individual ☐ small business concern ☐ nonprofit organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earlier of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.28(b).)

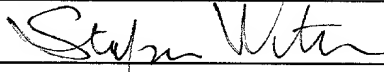
Application No. _____
Attorney's Docket No. _____

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code; and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name Heed, Björn

Signature  Date August 2, 1999

Name Witte, Stefan

Signature  Date AUG 5, 1999

Name _____

Signature _____ Date _____

VIEWING INSTRUMENT

In using conventional hand-held viewing instruments the largest useful magnification is restricted by the difficulty experienced by the user of holding such hand-held instruments sufficiently stable. The slightest shaking movement of the instrument causes the image viewed by the user to shake also. In the case of high degrees of magnification, the shaking movements affect the image to such an extent that as to make perception thereof difficult. Hand-held viewing instruments therefore are rarely used for magnification above ten. Magnification to seven or eight is common for practical purposes.

When viewing instruments are used to view objects that appear small against a large background, such as birds or aeroplanes against the sky, high-magnification instruments may make it difficult to find the objects one wishes to study. High magnification reduces the field of vision.

In a viewing instrument in accordance with the present invention these disadvantages related to the shaking motions and to the difficulties in finding the target objects may be overcome. This is achieved by the possibility of freezing the instrument-produced image. The frozen image may then be studied without inconvenience, also if the instrument itself is subjected to shaking movements. This technique provides the viewer with the possibility of studying the frozen image in detail under larger magnification. To find the object to be viewed, the viewer uses a low degree of magnification, which provides him with a large field of vision. Once he has found the object he seeks and preferably has centred it to the centre field of the image, he freezes the image and may study the image without the latter being subjected to shaking movements. At this stage it is also

possible to magnify the frozen image. If in this case the image is centred on the object the viewer wishes to view in closer detail, enlargement of the central part of the image suffices for that purpose.

5 One embodiment of the invention is illustrated in Fig. 1, wherein numeral reference 1 designates a focus lens or objective producing an image on the electronic retina 2. From the retina data signals representative of the image are forwarded to the processing and memorising
10 unit 3, the latter being connected to a screen 4 displaying an image that may be received by the viewer's eye 6 via the ocular 5. While the viewer is looking for some object to be studied in closer detail, the screen constantly and in real time displays the image registered by
15 the electronic retina at any moment. When a button (not shown in the drawing figure) is depressed, the image displayed on the screen 4 freezes into a standstill, and thus the displayed image no longer coincides with that registered by the electronic retina. This allows the
20 viewer to study the non-shaking image in peace and quiet until such time as he releases the button and in response thereto the image displayed on the screen 4 again in real time shows the image being registered by the electronic retina 2. The freezing feature may be achieved e.g. with
25 the aid of a memory function incorporated in the processing unit 3. However, an equivalent memory function installed in the screen 4 or the electronic retina 5 could be used to provide this function. As an alternative to image freezing by means of a depression-activated
30 button, freezing may be effected with the aid of a timer set to automatically provide alternating moving and frozen images at suitable intervals.

The magnification that the viewer experiences when using this kind of viewing instrument is a result among
35 other things of the focal lengths of the optical systems 1 and 5 and of the dimensions of the electronic retina 2 and the display screen 4. In a simple variety of the

invention, the magnification degree rests constant. In accordance with a more sophisticated form the invention, the magnification changes as the image freezes, and this is due to such a change of the transfer of the image from the electronic retina 2 to the display screen 4 effected by the processing unit 3 that only a smaller section of the area of the electronic retina 2 is pictured, spread across the entire surface of the display screen 4. This additional magnification when viewing a frozen image could either be set at a fixed value or be selected by setting the process unit 3.

Electronic retinas and display screens typically operate by division of the areas into a large number of smaller elements or pixels. In order for the magnified image as described above to be completely useful and show a larger number of details than the non-magnified image, the number of such pixels in the magnified area of the electronic retina must be equal to the number of pixels of the entire display screen. To use different pixel densities in different parts of the electronic retina may be complicated and expensive. Also, to use an electronic retina exhibiting high pixel density over its entire area may also be an expensive solution.

Fig. 2 illustrates an embodiment of the invention wherein these problems have been solved by the use of two different focus lenses 7 and 8, each having its respective electronic retina 9 and 10. In this case, the focus lens 7 is adapted to the electronic retina 9 in such a manner as to give the system a moderate degree of magnification but a considerable angle of vision. The focus lens 8, on the other hand, is so adapted to the electronic retina 10 that the degree of magnification of the system becomes high but at the expense of a reduced field of vision. When electronic retinas of equal dimensions are used, a focus lens having a longer focal length results in a higher degree of magnification.

In this case the processing unit 3, when searching for an object, supplies a constantly up-dated real-time image on the display screen 4, which image is received from the optical system formed by the focus lens 7 and the electronic retina 9. In response to depression of a button, the processing unit 3 shifts to displaying a frozen image received from the optical system formed by the focus lens 8 and the electronic retina 10. This latter image thus is an enlarged and still section of what has been shown previously.

The two electronic retinas 9 and 10 need not be physically separated. They may be individual parts of a larger electronic retina. It is likewise possible to use one electronic retina only, which is adapted to move by mechanical means between two positions and be exposed to receive images from one of the two lenses having different focal lengths. An identical effect may be achieved by means of a stationarily positioned electronic retina exposed to receiving images optically linked to said retina via moving mirrors or prisms. Alternatively, the focus lenses may exchange positions, and so on. The single electronic retina could also be exposed to receive two different images one of which is alternately screened off by a movable screen. The object in question could also be viewed optically in the form of a wide-angle image one portion of which, preferably a central portion, is treated as outlined above.

The same effect may be achieved by using one single electronic retina, which registers the image received from a focus lens having a variable focal length.

The instrument described above is in principle a mono-ocular viewing instrument used for one eye only. Two such instruments, when interconnected, results in a binocular type of viewing instrument used for both eyes. An instrument of this type is more comfortable and less eye-fatiguing. In order to obtain a less expensive instrument structure while retaining the above advantage,

the instrument may be designed in such a manner that only a front part is used, having one or two focus lenses and one or two electronic retinas as defined above, which are connected to a processing unit supplying identical images to two different display screens, one for each eye. Alternatively, a larger display screen, which may be viewed by both eyes, could be used.

CLAIMS

1. A viewing instrument, characterised
in that it is provided with a memory function to freeze
5 the image being viewed by the user.

2. A viewing instrument as claimed in claim 1,
characterised in that it is arranged to
magnify the frozen image being viewed by the user
relative to the non-frozen image.

10 3. A viewing instrument as claimed in claims 1 and
2, characterised in that it is provided with
a control means, preferably a depressible button, for
image freezing.

4. A viewing instrument as claimed in claims 1 and
15 2, characterised in that it comprises a
timer for time-interval freezing of the image.

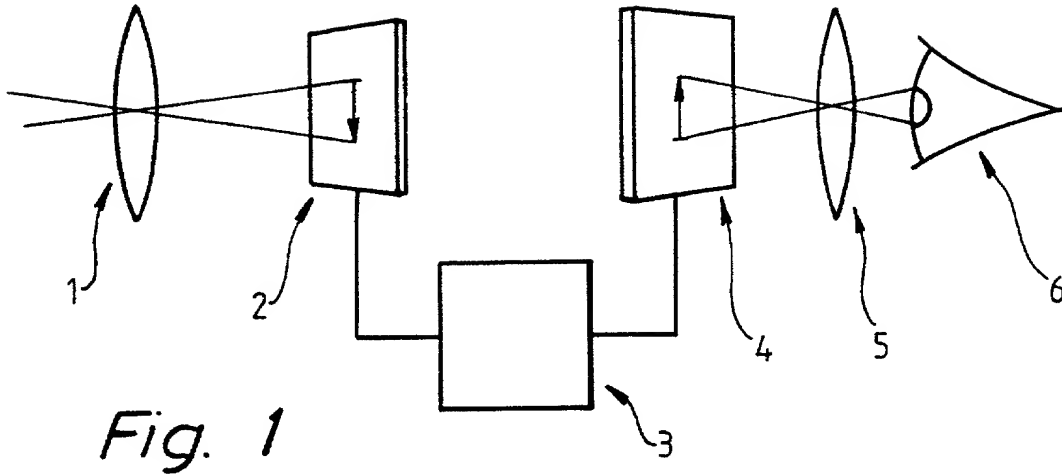
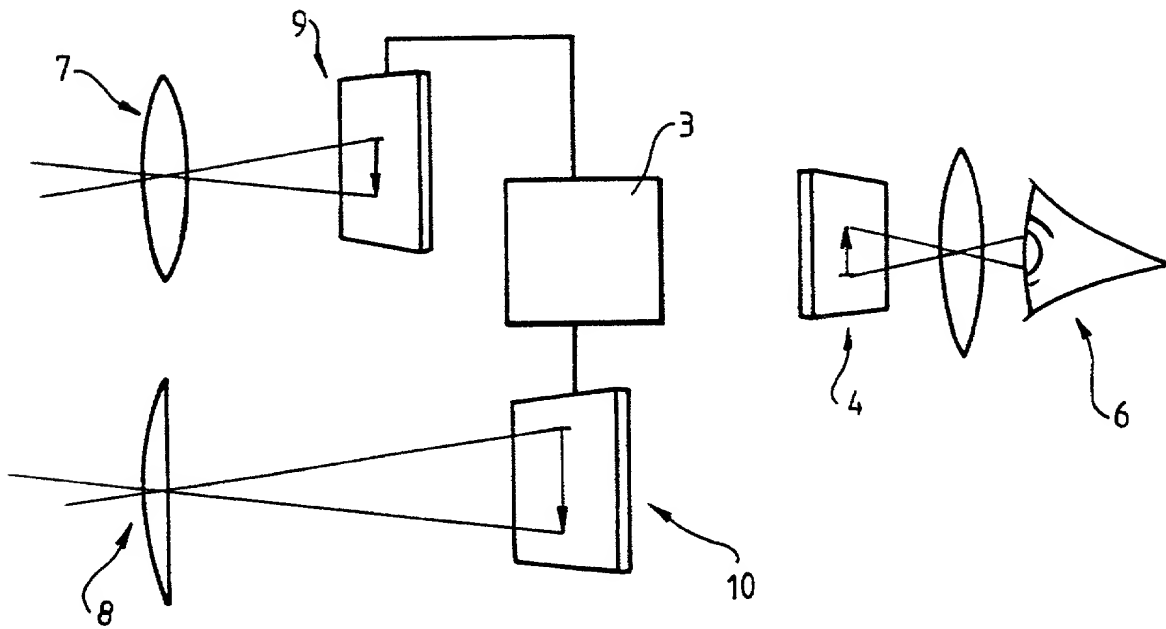
5. A viewing instrument as claimed in claims 1-4,
characterised in that to provide the memory
function, the instrument comprises an electronic pro-
20 cessing unit (3) which connects one or several electronic
retinas (2) with an electronic display screen (4).

6. A viewing instrument as claimed in claims 1-5,
characterised in that it comprises only one
electronic retina (2), and in that said electronic retina
25 (2) is arranged to be optically or mechanically exposed
to receive different-size images in such a manner that
the frozen image being viewed has a larger size on the
display screen (4) than the non-frozen image, the latter
image in contrast comprising a larger angle of vision.

30 7. A binocular-type of viewing instrument as claimed
in claim 1-6, characterised in that it con-
sists of two interconnected viewing instruments.

8. A viewing instrument for both eyes as claimed in
claims 1-6, characterised in that it con-
35 sists of a viewing instrument modified so as to comprise
two display screens, one for each eye and showing the
same image.

1/1

*Fig. 1**Fig. 2*

**COMBINED DECLARATION AND POWER OF ATTORNEY
FOR UTILITY PATENT APPLICATION**

Attorney's Docket No.

003300-570

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I BELIEVE I AM THE ORIGINAL, FIRST AND SOLE INVENTOR (if only one name is listed below) OR AN ORIGINAL, FIRST AND JOINT INVENTOR (if more than one name is listed below) OF THE SUBJECT MATTER WHICH IS CLAIMED AND FOR WHICH A PATENT IS SOUGHT ON THE INVENTION ENTITLED:

VIEWING INSTRUMENT ✓

the specification of which

(check one)

☐ is attached hereto;

☐ was filed on _____ as

Application No. _____

and was amended on _____ ;
(if applicable)

I HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE;

I ACKNOWLEDGE THE DUTY TO DISCLOSE TO THE OFFICE ALL INFORMATION KNOWN TO ME TO BE MATERIAL TO PATENTABILITY AS DEFINED IN TITLE 37, CODE OF FEDERAL REGULATIONS, Sec. 1.56 (as amended effective March 16, 1992);

I do not know and do not believe the said invention was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to said application; that said invention was not in public use or on sale in the United States of America more than one year prior to said application; that said invention has not been patented or made the subject of an inventor's certificate issued before the date of said application in any country foreign to the United States of America on any application filed by me or my legal representatives or assigns more than twelve months prior to said application;

I hereby claim foreign priority benefits under Title 35, United States Code Sec. 119 and/or Sec. 365 of any foreign application(s) for patent or inventor's certificate as indicated below and have also identified below any foreign application for patent or inventor's certificate on this invention having a filing date before that of the application(s) on which priority is claimed:

COMBINED DECLARATION AND POWER OF ATTORNEY

Attorney's Docket No.

COUNTRY/INTERNATIONAL	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED
Sweden	9604522-4 ✓	9 Dec. 1996	YES x NO _
PCT	SE97/01846	5 Nov. 1997	YES x NO _

I hereby appoint the following attorneys and agent(s) to prosecute said application and to transact all business in the Patent and Trademark Office connected therewith and to file, prosecute and to transact all business in connection with international applications directed to said invention:

William L. Mathis	<u>17,337</u>	George A. Hovanec, Jr.	<u>28,223</u>	Peter K. Skiff	<u>31,917</u>
Peter H. Smolka	<u>15,913</u>	James A. LaBarre	<u>28,632</u>	Richard J. McGrath	<u>29,195</u>
Robert S. Swecker	<u>19,885</u>	E. Joseph Gess	<u>28,510</u>	Matthew L. Schneider	<u>32,814</u>
Platon N. Mandros	<u>22,124</u>	R. Danny Huntington	<u>27,903</u>	Michael G. Savage	<u>32,596</u>
Benton S. Duffett, Jr.	<u>22,030</u>	Eric H. Weisblatt	<u>30,505</u>	Gerald F. Swiss	<u>30,113</u>
Norman H. Stepno	<u>22,716</u>	James W. Peterson	<u>26,057</u>	Michael J. Ure	<u>33,089</u>
Ronald L. Grudziecki	<u>24,970</u>	Teresa Stanek Rea	<u>30,427</u>	Charles F. Wieland III	<u>33,096</u>
Frederick G. Michaud, Jr.	<u>26,003</u>	Robert E. Krebs	<u>25,885</u>	Bruce T. Wieder	<u>33,815</u>
Alan E. Kopecki	<u>25,813</u>	William C. Rowland	<u>30,888</u>	Todd R. Walters	<u>34,040</u>
Regis E. Slutter	<u>26,999</u>	T. Gene Dillahunty	<u>25,423</u>	Ronni S. Jillions	<u>31,979</u>
Samuel C. Miller, III	<u>27,360</u>	Patrick C. Keane	<u>32,858</u>	Harold R. Brown III	<u>36,341</u>
Ralph L. Freeland, Jr.	<u>16,110</u>	Bruce J. Boggs, Jr.	<u>32,344</u>	Allen R. Baum	<u>36,086</u>
Robert G. Mukai	<u>28,531</u>	William H. Benz	<u>25,952</u>	Steven M. du Bois	<u>35,023</u>

and: None

Address all correspondence to:

Benton S. Duffett, Jr.
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, Virginia 22313-1404

Address all telephone calls to: Benton S. Duffett, Jr. at (703) 836-6620.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

FULL NAME OF SOLE OR FIRST INVENTOR

Heed, Björn

SIGNATURE

DATE

August 2, 1999

RESIDENCE

Göteborg, Sweden ~~SEX~~

CITIZENSHIP

Swedish

POST OFFICE ADDRESS

Utlandagatan 19, SE-412 61 GÖTEBORG, Sweden

FULL NAME OF SECOND JOINT INVENTOR, IF ANY

WITTE, Stefan

SIGNATURE

DATE

Aug. 5, 1999

RESIDENCE

Västra Frölunda, Sweden ~~SEX~~

CITIZENSHIP

Swedish

POST OFFICE ADDRESS

Fortgatan 3 A, SE-421 76 VÄSTRA FRÖLUNDA, Sweden

FULL NAME OF THIRD JOINT INVENTOR, IF ANY

SIGNATURE

DATE

RESIDENCE

CITIZENSHIP

POST OFFICE ADDRESS

COMBINED DECLARATION AND POWER OF ATTORNEY		Attorney's Docket No.
FULL NAME OF FOURTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF SIXTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF EIGHTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF NINTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF TENTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF ELEVENTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		
FULL NAME OF TWELFTH JOINT INVENTOR, IF ANY	SIGNATURE	DATE
RESIDENCE	CITIZENSHIP	
POST OFFICE ADDRESS		